

Steven Federman

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6431288/publications.pdf>

Version: 2024-02-01

123
papers

3,264
citations

126907

33
h-index

182427

51
g-index

124
all docs

124
docs citations

124
times ranked

1560
citing authors

#	ARTICLE	IF	CITATIONS
1	Multireference configuration interaction study of the predissociation of C2 via its $F^1\hat{I}$ state. <i>Journal of Chemical Physics</i> , 2022, 157, .	3.0	5
2	The Transition from Diffuse Molecular Gas to Molecular Cloud Material in Taurus. <i>Astrophysical Journal</i> , 2021, 914, 59.	4.5	3
3	Physical Conditions in Shocked Interstellar Gas Interacting with the Supernova Remnant IC 443*. <i>Astrophysical Journal</i> , 2020, 897, 83.	4.5	8
4	Ab Initio Study of Ground-state CS Photodissociation via Highly Excited Electronic States. <i>Astrophysical Journal</i> , 2019, 882, 86.	4.5	8
5	Runaway O-star Bow Shocks as Particle Accelerators? The Case of AE Aur Revisited. <i>Astrophysical Journal</i> , 2019, 885, 105.	4.5	4
6	Lifetimes and Oscillator Strengths for Ultraviolet Transitions in Neutral Chlorine. <i>Astrophysical Journal</i> , 2019, 887, 14.	4.5	6
7	Consequences of Refining the Distance to the Supergiant HD 169454. <i>Research Notes of the AAS</i> , 2019, 3, 60.	0.7	0
8	Oscillator Strengths for Ultraviolet Transitions in P ii: The Multiplet at 1308 Å... <i>Astrophysical Journal</i> , 2018, 868, 42.	4.5	9
9	Atlas of new and revised high-resolution spectroscopy of six CO isotopologues in the 101–115 nm range. <i>Astronomy and Astrophysics</i> , 2018, 614, A114.	5.1	8
10	The Connection between Different Tracers of the Diffuse Interstellar Medium: Kinematics. <i>Astrophysical Journal</i> , 2018, 858, 111.	4.5	3
11	Abundances and Depletions of Neutron-capture Elements in the Interstellar Medium. <i>Astrophysical Journal, Supplement Series</i> , 2018, 236, 36.	7.7	16
12	Lifetimes and oscillator strengths for ultraviolet transitions in singly-ionized germanium. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2017, 50, 155007.	1.5	7
13	Parsec-scale Variations in the $^{7}\text{Li}/^{6}\text{Li}$ Isotope Ratio Toward IC 348 and the Perseus OB 2 Association* â€. <i>Astrophysical Journal Letters</i> , 2017, 835, L16.	8.3	3
14	High-resolution study of oscillator strengths and predissociation rates for $^{13}\text{C}^{18}\text{O}$. <i>Astronomy and Astrophysics</i> , 2017, 602, A76.	5.1	11
15	VIS and VUV spectroscopy of $^{12}\text{C}^{17}\text{O}$ and deperturbation analysis of the $A^1\hat{I}, \dots = 1^{\infty}5$ levels. <i>RSC Advances</i> , 2016, 6, 31588-31606.	3.6	9
16	High-resolution spectroscopy of the $\{A\}^1\{m\{Pi\}}(v^{\prime})$ Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 152 Td (=0mbox{-}10)mbox{-} in $^{13}\text{C}^{18}\text{O}$: term values, ro-vibrational oscillator strengths and HÃ¶nlâ€“London corrections. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016, 49, 154001.	1.5	7
17	Lifetimes and oscillator strengths for ultraviolet transitions in singly-ionized tin. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016, 49, 215002.	1.5	3
18	The Interstellar Abundance of Lead: Experimental Oscillator Strengths for Pb ii $\hat{I}^{\circ}1203$ and $\hat{I}^{\circ}1433$ and New Detections of Pb ii in the Interstellar Medium. <i>Proceedings of the International Astronomical Union</i> , 2015, 11, .	0.0	1

#	ARTICLE	IF	CITATIONS
19	High-resolution oscillator strength measurements of the $v' = 0,1$ bands of the $B^1\Sigma^+$, $C^1\Sigma^+$, and $E^1\Sigma^+$ systems in five isotopologues of carbon monoxide. Proceedings of the International Astronomical Union, 2015, 11, .	0.0	0
20	THE $C^{14}N/C^{15}N$ RATIO IN DIFFUSE MOLECULAR CLOUDS. Astrophysical Journal Letters, 2015, 804, L3.	8.3	19
21	LIFETIMES AND OSCILLATOR STRENGTHS FOR ULTRAVIOLET TRANSITIONS IN SINGLY IONIZED LEAD. Astrophysical Journal, 2015, 808, 112.	4.5	7
22	High-resolution study of oscillator strengths and predissociation rates for $^{13}C^{16}O$ and $^{12}C^{18}O$. Astronomy and Astrophysics, 2014, 566, A96.	5.1	21
23	Observation of a new electronic state of CO perturbing $\{W, \{^1\Pi(v=1)\} \tilde{W}^1(v=1)$. Journal of Chemical Physics, 2014, 141, 144311.	3.0	15
24	HIGH-RESOLUTION OSCILLATOR STRENGTH MEASUREMENTS OF THE $v' = 0,1$ BANDS OF THE $B-X$, $C-X$, AND $E-X$ SYSTEMS IN FIVE ISOTOPOLOGUES OF CARBON MONOXIDE. Astrophysical Journal, 2014, 788, 67.	4.5	29
25	OH ^+X IN DIFFUSE MOLECULAR CLOUDS. Astrophysical Journal Letters, 2014, 781, L8.	8.3	26
26	High-Resolution Study of $^{13}C^{16}O$ $X(v' = 0-9)$ Bands Using the VUV-FTS at SOLEIL: Revised Term Values. Journal of Physical Chemistry A, 2013, 117, 9644-9652.	2.5	16
27	The au-scale structure in diffuse molecular gas towards τ Persei. Astronomy and Astrophysics, 2013, 559, A131.	5.1	6
28	Observational Constraints for Modeling Diffuse Molecular Clouds. Proceedings of the International Astronomical Union, 2013, 9, 321-329.	0.0	0
29	REVISITING THE CHLORINE ABUNDANCE IN DIFFUSE INTERSTELLAR CLOUDS FROM MEASUREMENTS WITH THE COPERNICUS SATELLITE. Astrophysical Journal, 2012, 744, 174.	4.5	25
30	THE $^7Li/^{6}Li$ ISOTOPE RATIO NEAR THE SUPERNOVA REMNANT IC 443. Astrophysical Journal Letters, 2012, 750, L15.	8.3	7
31	ULTRAVIOLET MEASUREMENTS OF INTERSTELLAR C_2 . Astrophysical Journal, 2012, 761, 38.	4.5	17
32	The impact of recent advances in laboratory astrophysics on our understanding of the cosmos. Reports on Progress in Physics, 2012, 75, 036901.	20.1	51
33	High-resolution study of oscillator strengths and predissociation rates for $^{12}C^{16}O$. Astronomy and Astrophysics, 2012, 543, A69.	5.1	38
34	INTERSTELLAR CN AND CH ^+X IN DIFFUSE MOLECULAR CLOUDS: $^{12}C/^{13}C$ RATIOS AND CN EXCITATION. Astrophysical Journal, 2011, 728, 36.	4.5	52
35	THE ABUNDANCE OF BORON IN DIFFUSE INTERSTELLAR CLOUDS. Astrophysical Journal, 2011, 728, 70.	4.5	12
36	The nature of the Na D-lines in the Red Rectangle... Monthly Notices of the Royal Astronomical Society, 2011, 417, 2860-2873.	4.4	6

#	ARTICLE	IF	CITATIONS
37	DIFFUSE ATOMIC AND MOLECULAR GAS NEAR IC 443. <i>Astrophysical Journal</i> , 2009, 696, 1533-1542.	4.5	5
38	RUBIDIUM IN THE INTERSTELLAR MEDIUM. <i>Astrophysical Journal</i> , 2009, 706, 614-622.	4.5	7
39	LIFETIMES AND OSCILLATOR STRENGTHS FOR ULTRAVIOLET TRANSITIONS IN SINGLY IONIZED COPPER. <i>Astrophysical Journal</i> , 2009, 702, 880-883.	4.5	8
40	Comment on "Experimental Test of Self-Shielding in Vacuum Ultraviolet Photodissociation of CO". <i>Science</i> , 2009, 324, 1516-1516.	12.6	13
41	A Multiwavelength Study of the Close Environment of HD 34078. , 2009, , .		0
42	Boron abundances in diffuse interstellar clouds. <i>Proceedings of the International Astronomical Union</i> , 2009, 5, 237-242.	0.0	2
43	CO emission and variable CH and CH ⁺ absorption towards HD 34078: evidence for a nascent bow shock?. <i>Astronomy and Astrophysics</i> , 2009, 501, 221-237.	5.1	18
44	Oscillator strengths for ultraviolet transitions in P II and Cu II. <i>Journal of Physics: Conference Series</i> , 2008, 130, 012007.	0.4	1
45	Ultraviolet Survey of CO and H ₂ in Diffuse Molecular Clouds: The Reflection of Two Photochemistry Regimes in Abundance Relationships. <i>Astrophysical Journal</i> , 2008, 687, 1075-1106.	4.5	213
46	The Effects of Doubly Ionized Chemistry on SH ⁺ and S ⁺ Abundances in X-Ray-dominated Regions. <i>Astrophysical Journal</i> , 2008, 675, L81-L84.	4.5	13
47	Hubble Space Telescope Measurements of Vacuum Ultraviolet Lines of Interstellar CH. <i>Astrophysical Journal</i> , 2007, 659, 1352-1359.	4.5	10
48	Atomic Data For Determining Abundances In Interstellar Clouds. <i>AIP Conference Proceedings</i> , 2007, , .	0.4	0
49	The need for branching fraction measurements in multiply-charged ions. <i>Physica Scripta</i> , 2007, 75, C1-C7.	2.5	8
50	Hubble Space Telescope Survey of Interstellar ¹² CO/ ¹³ CO in the Solar Neighborhood. <i>Astrophysical Journal</i> , 2007, 667, 1002-1016.	4.5	60
51	Oscillator Strengths for Ultraviolet Transitions in Pii. <i>Astrophysical Journal</i> , 2007, 660, 919-921.	4.5	12
52	VLT UVES Observations of Interstellar Molecules and Diffuse Bands in the Magellanic Clouds. <i>Astrophysical Journal, Supplement Series</i> , 2006, 165, 138-172.	7.7	107
53	The Nature of Interstellar Gas toward the Pleiades Revealed in Absorption Lines. <i>Astrophysical Journal</i> , 2006, 649, 788-806.	4.5	19
54	Oscillator Strengths and Predissociation Rates for Rydberg Transitions in ¹² C ¹⁶ O, ¹³ C ¹⁶ O, and ¹³ C ¹⁸ O Involving the E ₁ , B ₁ ⁺ , and W ₁ States. <i>Astrophysical Journal</i> , 2006, 647, 1543-1548.	4.5	39

#	ARTICLE	IF	CITATIONS
55	Cloud Structure and Physical Conditions in Star-forming Regions from Optical Observations. II. Analysis. <i>Astrophysical Journal</i> , 2005, 633, 986-1004.	4.5	67
56	Oscillator Strengths for Ultraviolet Transitions in CII and CIII. <i>Astrophysical Journal</i> , 2005, 621, 1159-1162.	4.5	12
57	Far Ultraviolet Spectroscopic Explorer Measurements of Interstellar Fluorine. <i>Astrophysical Journal</i> , 2005, 619, 884-890.	4.5	38
58	Oscillator strengths for transitions to Rydberg levels in C^{12}O , C^{16}O , C^{13}O and C^{18}O between 967 and 972 Å. <i>Astronomy and Astrophysics</i> , 2004, 424, 355-361.	5.1	17
59	Cleaning Atomic and Molecular Structure from Oscillator Strengths Needed in Astrophysics. <i>Physica Scripta</i> , 2004, 70, C21-C23.	2.5	1
60	Reanalysis of Copernicus Measurements of Interstellar Carbon Monoxide. <i>Astrophysical Journal</i> , 2004, 605, 278-284.	4.5	18
61	Cloud Structure and Physical Conditions in Star-forming Regions from Optical Observations. I. Data and Component Structure. <i>Astrophysical Journal, Supplement Series</i> , 2004, 151, 313-343.	7.7	52
62	The Interstellar Rubidium Isotope Ratio toward Ophiuchi A. <i>Astrophysical Journal</i> , 2004, 603, L105-L108.	4.5	11
63	Nonthermal Chemistry in Diffuse Clouds with Low Molecular Abundances. <i>Astrophysical Journal</i> , 2003, 589, 319-337.	4.5	40
64	FUSE Measurements of Rydberg Bands of Interstellar CO between 925 and 1150. <i>Astrophysical Journal</i> , 2003, 597, L29-L32.	4.5	19
65	Further Evidence for Chemical Fractionation from Ultraviolet Observations of Carbon Monoxide. <i>Astrophysical Journal</i> , 2003, 591, 986-999.	4.5	47
66	Small scale structure in molecular gas from multi-epoch observations of HD 34078. <i>Astronomy and Astrophysics</i> , 2003, 401, 215-226.	5.1	32
67	An Ultra-high-Resolution Survey of the Interstellar $^7\text{Li}/^6\text{Li}$ Isotope Ratio in the Solar Neighborhood. <i>Astrophysical Journal</i> , 2003, 586, 268-285.	4.5	37
68	ORFEUS Observations of the Foreground Gas toward HD 37903. <i>Astrophysical Journal</i> , 2002, 575, 234-239.	4.5	13
69	Ultraviolet Detection of Interstellar $^{12}\text{C}/^{13}\text{C}$ and the CO Isotopomeric Ratios toward X Persei. <i>Astrophysical Journal</i> , 2002, 574, L171-L174.	4.5	48
70	Interstellar CN toward CH $^+$ -forming regions. <i>Astronomy and Astrophysics</i> , 2002, 389, 993-1014.	5.1	36
71	High-Resolution Measurements of Intersystem Bands of Carbon Monoxide toward X Persei. <i>Astrophysical Journal</i> , 2002, 572, L95-L98.	4.5	15
72	Oscillator Strengths for B \leftarrow X, C \leftarrow X, and E \leftarrow X Transitions in Carbon Monoxide. <i>Astrophysical Journal, Supplement Series</i> , 2001, 134, 133-138.	7.7	37

#	ARTICLE	IF	CITATIONS
73	Atomic Physics with the Goddard High Resolution Spectrograph on the Hubble Space Telescope. V. Oscillator Strengths for Neutral Carbon Lines below 1200 Å. <i>Astrophysical Journal</i> , 2001, 555, 1020-1026.	4.5	10
74	Density Variations over Subparsec Scales in Diffuse Molecular Gas. <i>Astrophysical Journal</i> , 2001, 558, L105-L108.	4.5	29
75	Physical Conditions in the Foreground Gas of Reflection Nebulae: NGC 2023, vdB 102, and NGC 7023. <i>Astrophysical Journal</i> , Supplement Series, 2001, 135, 201-225.	7.7	23
76	Newly synthesized lithium in the interstellar medium. <i>Nature</i> , 2000, 405, 656-658.	27.8	40
77	Lifetime Measurements in Sn II. <i>Astrophysical Journal</i> , 2000, 542, 400-403.	4.5	22
78	Accurate Calculation of Mg II π Oscillator Strengths. <i>Astrophysical Journal</i> , 1999, 527, 470-473.	4.5	19
79	Theoretical Modeling of ISO Results on Planetary Nebula NGC 7027. <i>Astrophysical Journal</i> , 1999, 515, 640-648.	4.5	21
80	The Perseus B5 Molecular Cloud Halo: Measurements of Pressure, Temperature, and Composition. <i>Astrophysical Journal</i> , 1999, 510, 291-304.	4.5	27
81	Lifetimes and Oscillator Strengths for Ultraviolet Transitions in Neutral Sulfur. <i>Astrophysical Journal</i> , 1998, 502, 1010-1014.	4.5	13
82	Atomic Physics with the Goddard High Resolution Spectrograph on the Hubble Space Telescope. IV. Relative Oscillator Strengths for Singly Ionized Nickel. <i>Astrophysical Journal</i> , 1998, 498, 256-260.	4.5	27
83	The $^{11}\text{B}/^{10}\text{B}$ Ratio of Local Interstellar Diffuse Clouds. <i>Astrophysical Journal</i> , 1998, 494, 614-622.	4.5	35
84	Absolute Vacuum Ultraviolet Oscillator Strengths in Co II and the Interstellar Cobalt Abundance. <i>Astrophysical Journal</i> , 1998, 500, 1064-1068.	4.5	24
85	Atomic Physics with the Goddard High Resolution Spectrograph on the Hubble Space Telescope. III. Oscillator Strengths for Neutral Carbon. <i>Astrophysical Journal</i> , 1997, 484, 820-827.	4.5	22
86	Probing the Photodissociation Region toward HD 200775. <i>Astrophysical Journal</i> , 1997, 489, 758-765.	4.5	16
87	Relative Band Oscillator Strengths for Carbon Monoxide: A_{ul} \times X_{ul} \pm T_{ul}^+ Transitions. <i>Astrophysical Journal</i> , 1997, 477, L61-L64.	4.5	16
88	The Amount of CH Produced during CH ⁺ Synthesis in Interstellar Clouds. <i>Astrophysical Journal</i> , 1997, 481, 795-799.	4.5	21
89	The boron isotope ratio in the interstellar medium. <i>Nature</i> , 1996, 381, 764-766.	27.8	32
90	Synthesis of interstellar CH ⁺ without OH. <i>Monthly Notices of the Royal Astronomical Society</i> , 1996, 279, L41-L46.	4.4	60

#	ARTICLE	IF	CITATIONS
91	Cosmic Ray--induced Chemistry toward Perseus OB2. <i>Astrophysical Journal</i> , 1996, 463, 181.	4.5	56
92	Hubble Space Telescope observations of C2 molecules in diffuse interstellar clouds. <i>Astrophysical Journal</i> , 1995, 438, 740.	4.5	75
93	Vibrationally excited H ₂ , HCl, and NO(+) in the diffuse clouds toward Zeta Ophiuchi. <i>Astrophysical Journal</i> , 1995, 445, 325.	4.5	62
94	Atomic Physics with the Goddard High-Resolution Spectrograph on the Hubble Space Telescope. I. Oscillator Strengths for Neutral Sulfur. <i>Astrophysical Journal</i> , 1995, 452, 269.	4.5	27
95	Interstellar carbon monoxide toward zeta Ophiuchi. <i>Astrophysical Journal</i> , 1994, 420, 756.	4.5	64
96	The depletion of calcium in the interstellar medium. <i>Astrophysical Journal</i> , 1994, 424, 748.	4.5	55
97	Chemical transitions for interstellar C2 and CN in cloud envelopes. <i>Astrophysical Journal</i> , 1994, 424, 772.	4.5	110
98	Oscillator strengths of selected resonance transitions in neutral sulfur. <i>Astrophysical Journal</i> , 1994, 428, 393.	4.5	19
99	Intersystem transitions of interstellar carbon monoxide toward zeta Ophiuchi. <i>Astrophysical Journal</i> , 1994, 432, L139.	4.5	22
100	Accurate oscillator strengths for interstellar ultraviolet lines of CL I. <i>Astrophysical Journal</i> , 1993, 406, 735.	4.5	28
101	Warm neutral halos around molecular clouds. V - OH (1665 and 1667 MHz) observations. <i>Astrophysical Journal</i> , 1993, 407, 163.	4.5	31
102	Detection of boron, cobalt, and other weak interstellar lines toward Zeta Ophiuchi. <i>Astrophysical Journal</i> , 1993, 413, L51.	4.5	46
103	Ultraviolet Transitions of Low Condensation Temperature Heavy Elements and New Data for Interstellar Arsenic, Selenium, Tellurium, and Lead. <i>Astrophysical Journal</i> , 1993, 416, L41.	4.5	52
104	Diffuse Interstellar Clouds. <i>Highlights of Astronomy</i> , 1992, 9, 65-72.	0.0	0
105	High-velocity interstellar gas toward HD 169454. <i>Astronomical Journal</i> , 1992, 104, 691.	4.7	9
106	Formaldehyde reactions in dark clouds. <i>Astrophysical Journal</i> , 1992, 391, 141.	4.5	5
107	Fractionation of CO in the diffuse clouds toward Zeta Ophiuchi. <i>Astrophysical Journal</i> , 1992, 397, 482.	4.5	39
108	Accurate oscillator strengths for ultraviolet lines of AR I - Implications for interstellar material. <i>Astrophysical Journal</i> , 1992, 401, 367.	4.5	29

#	ARTICLE	IF	CITATIONS
109	Distances to diffuse interstellar clouds from IRAS measurements and observations of optical absorption lines. <i>Astronomical Journal</i> , 1991, 102, 1393.	4.7	4
110	Formaldehyde in envelopes of interstellar dark clouds. <i>Astrophysical Journal</i> , 1991, 375, 157.	4.5	27
111	Interstellar environments probed by CA I absorption and the effects of density-dependent depletions. <i>Astrophysical Journal</i> , 1991, 381, L17.	4.5	16
112	Modeling the chemistry of the dense interstellar clouds. I - Observational constraints for the chemistry. <i>Astrophysical Journal</i> , 1990, 354, 504.	4.5	18
113	Diffuse interstellar clouds as a chemical laboratory - The chemistry of diatomic carbon species. <i>Astrophysical Journal</i> , 1989, 338, 140.	4.5	38
114	The carbon chemistry in interstellar clouds toward moderately reddened stars. <i>Astrophysical Journal</i> , 1988, 328, 777.	4.5	26
115	The CO J = 2-1 emission from the interstellar gas toward Zeta Ophiuchi. <i>Astrophysical Journal</i> , 1987, 316, L71.	4.5	9
116	The 1088 A feature toward reddened stars. <i>Astrophysical Journal</i> , 1986, 309, 306.	4.5	9
117	On the detection of rubidium in diffuse interstellar clouds. <i>Astrophysical Journal</i> , 1985, 290, L55.	4.5	7
118	A low density molecular cloud in the vicinity of the Pleiades. <i>Astrophysical Journal</i> , 1984, 283, 626.	4.5	8
119	The CN radical in diffuse interstellar clouds. <i>Astrophysical Journal</i> , 1984, 287, 219.	4.5	55
120	Measurements of CH and CH ⁺ in diffuse interstellar clouds. <i>Astrophysical Journal</i> , 1982, 257, 125.	4.5	87
121	Diffuse interstellar clouds associated with dark clouds. <i>Astrophysical Journal</i> , 1982, 260, 124.	4.5	15
122	The abundance of CO in diffuse interstellar clouds - an ultraviolet survey. <i>Astrophysical Journal</i> , 1980, 242, 545.	4.5	84
123	Atomic to molecular hydrogen transition in interstellar clouds. <i>Astrophysical Journal</i> , 1979, 227, 466.	4.5	141